

Research Department
Federal Reserve
Bank of
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June 8, 1984

Women's Wages

It is a widely held view that women are discriminated against in wages and employment in the marketplace. To support this view the statistic often cited is that women earn on average less than two-thirds of what their male counterparts earn. In addition, other statistics show that women are not evenly represented in all occupations. Women hold over 95 percent of nursing and secretarial positions, for example, but less than a third of the jobs in engineering, construction and the technical professions. This seeming imbalance has led some to contend that employers actively keep women out of certain occupations.

These aggregate statistics are commonly used as evidence of widespread discrimination against women in the marketplace. Upon closer examination, however, that interpretation becomes less obvious. Indeed, available evidence largely supports the idea that competitive forces in the labor market effectively combat the effects of discrimination. This *Letter* examines the paradox and criticizes some policy implications that arise from one diagnosis of what causes differences in male and female employment situations.

Economics of discrimination

In discussing this complex issue, it is helpful to distinguish between two types of discrimination: discrimination based on prejudice and statistical discrimination. In one form of discrimination based on prejudice, employers are willing to sacrifice productivity and profits (by overpaying men or failing to hire qualified women) to satisfy a personal prejudice. In another, employers discriminate against women not because of their own prejudice, but because they fear that productivity would be adversely affected if male employees find it uncomfortable to work with women. The second form might be called the "male club" view of discrimination in the workplace.

In statistical discrimination, the employer has no desire to satisfy a taste for prejudice, but uses the sex of an employee (or some other characteristic) as a proxy for productivity-related attributes that cannot be observed easily. The employer may use the sex of an employee as a proxy for, for example, physical strength, mathematical aptitude or job commitment. It may be economically rational for the employer to "statistically" discriminate (despite the fact that the stereotype does not fit any one employee accurately), if the cost of obtaining more accurate measures of the desired attribute are too high.

Competition and discrimination

Although such prejudice and cost-of-information arguments are often accepted as the explanation for male-female differences in the labor market, it is easy to overstate their likely importance. In a competitive economy, there are extremely strong forces at work to minimize their effect on wages and employment. If a firm could hire females who were as productive as males at 60 percent of the male wage rate, for example, it would have a considerable cost-advantage over its competitors and, hence, a strong incentive to hire women at a lower wage. Prejudiced employers would presumably be driven out of the marketplace by more profitable, unprejudiced employers.

Similarly, competitive firms have an incentive to avoid the arbitrary use of statistical proxies; firms that devise inexpensive means of obtaining more accurate information on prospective employees will have a more productive work force than their prejudiced counterparts. In a competitive economy, the effects of the formation of "male clubs" also would be limited by the ability of females to form their own competitive enterprises. Although this would lead to segregated enterprises, one would not expect it to lead to male-female wage differentials or segregation by occupation.

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Some paradoxes

More important than these theoretical challenges to the conventional wisdom concerning sex discrimination are some seeming paradoxes in the statistical record of female labor market performance. If one believed, for example, that there was widespread economic discrimination against women in the economy, significant wage differentials would be expected in all worker age groups. Yet data from a National Science Foundation study in 1977 show that the earnings of new entrants to the labor market, such as recent male and female college graduates, are virtually identical for males and females regardless of the individual's field of study. The average across all business and engineering fields was \$12,548 for males and \$12,580 for females, for example.

Employer discrimination against women could also be expected to cause women to escape unfair labor practices by seeking self-employment. We thus might expect to see a higher proportion of women than men in self-employment, and self-employed women's wages to be relatively higher than what women earn in comparable wage and salary employment. Yet studies by Fuchs in 1960 and more recently by Moore have failed to find such patterns. Not only do relatively fewer females seek self-employment, their relative wages are either equal to or less than what they earn in the wage and salary sector.

Statistical problems

Why then do the aggregate statistics appear to show women at such a severe economic disadvantage? Much of the explanation lies in the job-related characteristics of the worker, such as level and type of education and the amount of work experience accumulated. In studies using publicly available data, about two-thirds of the male-female "wage gap" can be explained by such simple worker characteristics. Is the remaining wage gap due to discrimination or insufficient data for identifying other important worker attributes?

This is an extremely difficult question to answer. Sufficient data to account for all relevant worker and job attributes exist—if at all—only with an individual firm's employment records. Such information, however, is rarely made available to academic analysts. A study by Malkiel and Malkiel of a major white-collar enterprise found that male-female wage differences were essentially explained by differences in worker qualifications. A study by Siebert and Sloane in Great Britain used similar techniques (but much less detailed data) to study the compensation practices of firms engaged in various professional, public service and manufacturing activities. In only one case (an engineering firm) was there a wage differential unexplained by the available data on the workers' qualifications.

The two studies suggest that economic or statistical discrimination by employers does not play a major role in generating observed wage differences in men and women. Rather, as the model of competitive labor markets would suggest, overall, employers make their decisions based on work-related attributes of the worker.

Labor force attachment

One of the most important characteristics of the worker (male or female) is continuity of service in the labor force. Human capital (the knowledge and abilities we have or acquire that are valued by the marketplace), like physical capital, deteriorates over time. Prolonged absences from the labor market can be expected to decrease the value of a worker to an employer. A recent study by Mincer and Ofek, for example, found that each year in which a worker did not participate in the labor force resulted in a 3-8 percent deterioration in his or her wage from what it would otherwise have been. Since women spend approximately three times as much of their working life outside the labor force as men, the deterioration of their "human capital" may result in apparent disparities between average male and female wages.

Chart 1
Relative Participation Rates of Women/Men
(1984)

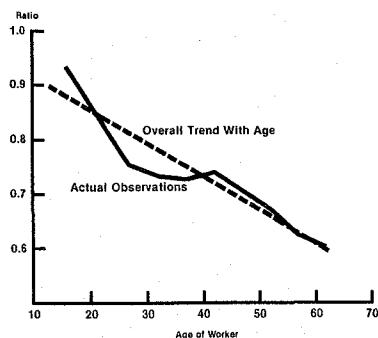
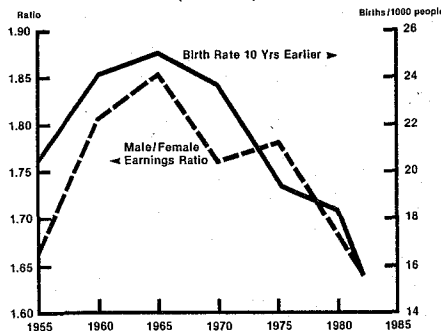


Chart 2
Male/Female Earnings & Child-Bearing
(1955-1982)



The major causes of reduced female labor force participation and lower relative wages appear to be marriage and child rearing. As Chart 1 illustrates, the major anomaly in the pattern of relative male and female labor force participation rates occurs in the twenties and thirties, when many individuals are forming families and bearing and raising children. Female participation in the labor market is lower relative to its trend relationship to male participation rates. This is consistent with the observed relationship between earlier decisions to bear children and subsequent earnings disparities between men and women (Chart 2). An increase in the birth rate appears to cause a rise in the male-female earnings ratio on average about ten years later, as the women return to the labor force with their "depreciated" human capital.

Women who choose not to form families should be less likely to be absent from the labor force for prolonged periods and, therefore, should experience fewer of the resultant effects on their market wage. Data from the National Longitudinal Survey confirms this hypothesis—single women who have never been married have wages virtually identical to their male counterparts.

"Women's work"

The uneven distribution of male and female employment by occupation also may be attributed to differences in labor force participation propensities. If the average female worker is (or plans to be) out of the labor force for an extended time, she would be rational to seek employment in an occupation that does not depend upon continuous labor force participation to maintain job skills. One might argue, for example, that the skill requirements of secretarial, clerical and primary school teaching positions probably are influenced less by extended labor force detachment than, say, those of university teaching or corporate management.

This is an extremely difficult proposition to demonstrate because of the difficulty in

measuring skill requirements across diverse occupations. Nevertheless, using coarse occupational categories, Polachek found that differences in labor force participation alone accounted for much of the observed occupational "segregation." Specifically, women's share of professional positions would increase by 35 percent and their share of menial jobs would decrease by 25 percent if they had the same labor force participation behavior as men. Although Polachek's simple tests are hardly definitive, they do point out the tenuousness of the assumption that conscious employer discrimination is the primary cause of the large observed occupational differences between the sexes.

Comparable worth

It has become increasingly important to resolve these and other issues regarding disparities in male-female compensation and employment patterns. In a recent decision in the State of Washington, for example, the court concluded that women were discriminated against because the wages paid in predominantly female occupations were less than in predominantly male occupations of "comparable worth"—that is, in occupations requiring "similar" skills. If the decision were upheld, the State of Washington's liabilities to its female employees would be in the billions of dollars.

Yet the economic theory and research cited here suggests that apparent wage and employment disparities between males and females may be due less to widespread prejudicial practices than to the simple interaction of forces of supply and demand. If this were the case, "corrective" policies such as comparable worth compensation would lead to a less efficient allocation of labor, with resultant higher levels of unemployment and lower levels of output for the economy as a whole.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT (Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding	Change from	Change from 12/28/83	
	5/23/84	5/23/84	Dollar	Percent Annualized
Loans, Leases and Investments ^{1 2}	179,676	— 468	3,651	5.1
Loans and Leases ^{1 6}	160,274	— 322	4,919	7.8
Commercial and Industrial	48,637	122	2,674	14.4
Real estate	59,855	21	956	4.0
Loans to Individuals	28,042	20	1,391	12.9
Leases	4,988	— 15	— 75	— 3.6
U.S. Treasury and Agency Securities ²	11,864	— 136	— 643	— 12.7
Other Securities ²	7,538	— 10	— 625	— 18.9
Total Deposits	186,209	— 1,679	— 4,788	— 6.2
Demand Deposits	43,121	— 2,262	— 6,116	— 30.7
Demand Deposits Adjusted ³	28,072	— 1,245	— 3,259	— 25.7
Other Transaction Balances ⁴	11,994	— 137	— 781	— 15.1
Total Non-Transaction Balances ⁶	131,094	720	2,109	4.0
Money Market Deposit Accounts—Total	39,303	— 34	— 294	— 1.8
Time Deposits in Amounts of \$100,000 or more	39,442	415	1,277	8.2
Other Liabilities for Borrowed Money ⁵	19,647	972	— 3,360	— 36.1
Weekly Averages of Daily Figures	Week ended 05/21/84	Week ended 05/07/84		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (—)	— 16	89		
Borrowings	55	147		
Net free reserves (+)/Net borrowed (—)	— 71	— 58		

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

⁵ Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

⁶ Includes items not shown separately

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